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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/717,535	11/21/2000	Harri Holma	059864.01134	5821

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EXAMINER

NGUYEN, PHUONGCHAU BA

ART UNIT	PAPER NUMBER
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2616

MAIL DATE	DELIVERY MODE
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09/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/717,535

Applicant(s)

HOLMA ET AL.

Examiner

Phuongchau Ba Nguyen

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. In view of the Appeal Brief filed on July 07, 2007, PROSECUTION IS
HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of
the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a
reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31
followed by an appeal brief under 37 CFR 41.37. The previously paid notice of
appeal fee and appeal brief fee can be applied to the new appeal. If, however,
the appeal fees set forth in 37 CFR 41.20 have been increased since they were
previously paid, then appellant must pay the difference between the increased
fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening
prosecution by signing below.

Claim Rejections – 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 19–30 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 19–30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims

19-20 provide for the use of "a method for data transmission in a cellular telecommunication system...", but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections – 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,393,007 B1 to Haartsen et al. ("Haartsen") in view of U.S. Patent No. 5,455,962 A to Kotzin et al. ("Kotzin") and in further view of "Channel Assignment Schemes for Cellular Mobile Telecommunication Systems: A Comprehensive Survey" to Katzela et al. ("Katzela").

As to claim 19, see prior art figure 3 of Haartsen. In particular, data is transmitted in bursts for using TDMA/TDD with one slot for TX and one slot for RX. Also shown is that each frame comprises a predetermined number n time slots on a frame-by-frame basis. In particular, the examiner notes that the above reference explicitly teaches hopping in both an uplink and downlink direction and implicitly teaches hopping in either an uplink direction or downlink direction on a frame-by-frame basis.

However, since Haartsen may not explicitly teach frequency hopping in one direction such that the other direction uses predetermined and fixed time slots in each of the consecutive frames, the examiner notes the following obviousness rejection below.

Kotzin in combination with Katzela teaches the above limitation at issue in either the Background at column 2, lines 50-60 or in the Preferred Embodiment at column 3, lines 45-56 of Kotzin with respect to one-way hopping and in the section entitled Review of Channel Allocation Schemes taught by Katzela with respect to dynamically and statically assigning channels

or time slots. In particular, Kotzin teaches that hopping can occur in only one direction (i.e., a "half-hopping format"). Although a frequency hopping appears to be taught by the reference, a time hopping scheme would also apply since if the receiving device is not aware of the hopping scheme (either frequency or time hopping) then the receiver cannot receive the beacon and obtain the necessary measurements for cell selection. Thus one skilled in the art would recognize that a time hopping scheme would also apply. In addition, both schemes avoid interference. Furthermore, in being non-hopping, the direction is by definition fixed.

One skilled in the art could also argue a fixed scheme indirectly also teaches predetermined time slots since the receiving device of the beacon must have prior knowledge on where to receive (i.e., which time slot or control channel) the beam information. However, assuming that above assumption may not be explicitly taught by Kotzin, Katzela further teaches the above underlining assumption since Katzela teaches that allocation schemes can be fixed (i.e., FCA), dynamic (i.e., DCA) or both (i.e., HCA) and where Katzela explicitly teaches that fixed schemes are "permanent" (i.e., predefined or static).

The examiner purposes to modify Haartsen to further clarify that the hop pattern could be applied to either the TX or R.X side of the time frame thus explicitly teaching a first direction using fixed and predetermined time slots. Thus the examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to further teach the limitation "transmission in said first direction (DL) occurs in predetermined and fixed time slots in each of the consecutive frames". In particular, Kotzin provides two motivations for the above modification of either complying with the GSM specification, see e.g., column 2, lines 50-60 or in order for a device such as a mobile to detect and measure nearby stations, see e.g., column 2, lines 50-6 and column 3, lines 45-58. The examiner also notes a reasonable expectation of success since all three references relate to sending information on time slots.

As to claim 20, see similar reasoning for the rejection for claim 19.

As to claim 21, Haartsen teaches GSM in the background, see e.g., column 1, lines 25–50 where TDMA is GSM. Kotzin further teaches GSM, see the rejection above for claim 19.

As to claim 22, Kotzin also teaches that frequency hopping is possible, e.g., see column 16, lines 40–53. Katzela also teaches that frequency hopping is possible, see e.g., page 1, left-hand column. Examiner notes a same motivation as applied in the parent claim.

As to claim 23, see similar rejection to claim 21 where GSM is TDMA.

As to claim 24, Haartsen teaches assigning time slots to mobiles where the mobile stations are the users.

As to claim 25, Haartsen further teaches transmitting and receiving information in an uplink and downlink direction thus further teaching either a first or

second transceiver device.

As to claim 26, see similar rejection to claim 21.

As to claim 27, see similar rejection to claim 22.

As to claim 28, see similar rejection to claim 23.

As to claim 29, see similar rejection to claim 24.

As to claim 30, see similar rejection to claim 25.

Response to Arguments

8. This Office action is in response to applicant's paper filed 7/09/2009.

Claims 19-30 as amended are still in consideration for this application.

-Examiner does not withdraw the obviousness rejection to Haartsen et al.

("Haartsen") in view of Kotzin et al. ("Kotzin") and in further view of Katzela et

al. ("Katzela"). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

-In addition, with respect to applicant's remarks concerning the Haartsen reference, the examiner notes that not explicitly teaching a limitation does not mean that the reference teaches away from a reference. Because the improvement of time slot hopping would constitute the hopping between sequential frames (Haartsen, col.8, lines 48-55, figure 4 had been improved with time slot hopping on TDMA/TDD communication scheme of figure 3). In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5

USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, at main issue between the examiner and applicant appears to be the Kotzin reference. The Kotzin reference teaches the following at e.g., column 3, lines 46-57:

"The solution to the problem of applying frequency hopping within GSM while still allowing mobile subscribers to detect nearby base sites lies, conceptually, in a half-hopping format wherein the uplink is maintained on a frequency hopping format while the downlink does not hop. The frequency hopping uplink (indexed uplink) achieves the noise immunity of frequency hopping communication systems. The non-hopping downlink (non-indexed downlink) allows a mobile subscriber to detect, and measure, the signals of nearby base stations."

Thus Kotzin teaches a hopping scheme in one direction only for a GSM or TDM/TDMA system and in particular that the hopping scheme is a frequency hopping scheme.

-Applicant argues that the above-cited section does not apply to a time hopping scheme. After much deliberation, both the examiner and his supervisor concluded that the above scenario also applies to a time hopping scheme since the same motivation applies in avoiding interference (i.e., one skilled in the art would conclude that either time hopping or frequency hopping

in one direction would reduce interference where Kotzin explicitly teaches avoiding interference by frequency hopping in one direction and applicant's specification teaches avoiding interference by time hopping in one direction, although their specification also teaches avoid interference by time hopping in both directions, such that one skilled in the art could apply either frequency hopping or time hopping in one direction for the motivation of avoiding interference). Thus both the examiner and his supervisor respectfully disagree with applicant. Furthermore, Haarsen helps provide additional support that time hopping schemes for either TDMA or TDMA/TDD system were well known in the art prior to applicant's invention. Haartsen further teaches that FH and/or TH schemes can further co-exist, see e.g., column 10, lines 35-52. Katzela affirms the notion that it is well known in the art to have both fixed and dynamic channel allocations. As such, the rejection is maintained.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuongchau Ba Nguyen whose

telephone number is 571-272-3148. The examiner can normally be reached on Monday-Friday from 10:00 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2616



Phuongchau Ba Nguyen

Examiner

Art Unit 2616



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SUPERVISORY PATENT EXAMINER
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